

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) Method for the protection of crops to control attacks of fungus, yeast, bacteria, virus and insects, the method comprising:

a first step of wetting plants with an inorganic wetting agent by means of dipole-electrical air jet spray-technology; and first irradiating said plants with UV-C light;

a second step of spraying said plants with ozonated water by means of said dipole-electrical air jet spray-technology; and second irradiating said plants with UV-C light.

2. (Previously Presented) Spray-method for the protection of crops according to claim 1 wherein said dipole-electrical air jet spray-technology includes a first spray device and a second spray device.

3 – 4. (Cancelled)

5. (Previously Presented) Spray-method for the protection of crops according to claim 2, wherein all parts of said plants are pre-wetted with negatively charged water and said inorganic wetting agent by said first spray-device.

6. (Previously Presented) Spray-method for the protection of crops according to one of claims 2 or 5, wherein all parts of said plants are sprayed with said dipole- ozonated water by said second spray-device.

7. (Previously Presented) Spray-method for the protection of crops, according to claim 1, wherein moistening water with said inorganic wetting agent from a first tank and said dipole-ozonated water from a second tank are whirl-sprayed on said plants by air jet whirl-stream out of special air-nozzles, created by an air-turbine or air-blower or air-compressor.

8 – 9. (Cancelled)

10. (Cancelled).

11. (Currently Amended) Apparatus for the protection of crops to control attacks of fungus, yeast, bacteria, virus and insects, wherein the apparatus is operable with dipole electrical spray technology and comprises:

UV-C lamps for irradiating plants with UV-C light;

first air-jet whirl stream nozzles for ~~the~~ wetting the plants with an inorganic wetting agent by spraying said agent with dipole electrical air-jet spray technology; and

second air-jet whirl stream nozzles for spraying the plants with ozonated water with said dipole electrical air-jet spray technology.

12. (Previously Presented) Apparatus according to claim 11, wherein said first air-jet whirl stream nozzles are included in a first spray device; and said second air-jet whirl stream nozzles are included in a second spray device.

13. (Previously Presented) Apparatus according to claim 12, wherein said first spray device is configured for pre-moistening of plants with negatively charged water with said wetting agent; and

wherein said first spray device includes:

a 3-point mounted chassis with frame and tank holding device;

an insulated water tank;

an electrical transformer;

an anode disposed in said water tank with a connection cable and security;

at least two lateral telescopic spray booms, each boom having special air and water nozzles including pipings;

at least two UV-C lamps with electrical conducts;

a water pressure-pump with pressure valves and manometers, controls and handles, said water pressure-pump being connected via pipes with said water-tank and said spray-booms;

an air-blower or air-compressor with controls, said air-blower or air-compressor being connected via pipes with the air-nozzles on the spray-booms for whirling of the spray-fog;

a PTO driving-shaft or electrical drive;

reverse pressure- and drainage-valves with handles; and

an adjustable spray-boom cover.

14. (Previously Presented) Apparatus according to claim 12, wherein the second spray device is configured for the spraying of ozonated water; and

wherein said second spray device includes:

a 3-point mounted chassis with frame and tank holding device or a pulled trailer-chassis;

an insulated water tank;

lateral telescopic spray-booms with special air- and water-nozzles including pipings or water-spray turbine;

UV-C lamps being equipped with electrical conducts;

a water pressure pump, said water pressure pump including pressure valves, manometers, controls, and handles, said water pressure pump being connected via pipes to said water-tank and said spray-booms;

an air-blower or an air-compressor with controls, said air-blower or air-compressor being connected via pipes to the air-nozzles on the spray-booms, for whirling of the spray-fog;

a PTO driving-shaft or an electrical drive;

reverse pressure- and drainage-valves with handle;

an adjustable spray-boom cover;

an electrical generator with control board;

an ozonated water-pump;

an air-separator for oxygen-production;

an ozone generator with cathodic discharge;

- a venturi valve;
- a turbine-mixer for ozone;
- an ozone gas adjuster;
- an ozone-concentration measurement device.

15. (Previously Presented) Apparatus according to one of the claims 12 to 14, wherein said UV-C lamps are full length UV-C lamps attached under said spray-booms; and

where said UV-C lamps are configured to create, in addition to the electro-magnetic direct irradiation, highly reactive oxidative hydroxy radicals in the spray fog, said radicals having an efficient biocidal effect and reinforcing with the hurdle-principle the biocidal impact of the ozone treatment.

16. (Previously Presented) Apparatus according to one of the claims 13 or 14, wherein each spray boom includes an adjustable spray-boom cover, said cover being configured such that direction and effect of spray application and UV-C light irradiation can be adapted, by controlling the cover's angle of inclination, according to a particular situation or setting.